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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/737,088 | 12/16/2003 | Thomas L. Kelly | KES-0003 | 5181 |
| 23413 | 7590 | 08/10/2006 | EXAMINER | |
| CANTOR COLBURN, LLP | | | A, PHI DIEU TRAN | |
| 55 GRIFFIN ROAD SOUTH | | | ART UNIT | |
| BLOOMFIELD, CT 06002 | | | PAPER NUMBER | |
| | | | 3637 | |

DATE MAILED: 08/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/737,088

Applicant(s)

KELLY, THOMAS L.

Examiner

Phi D. A

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

The amendment to claim 17 has improper status identifier of “original”. However, the claim is amended, and should have the proper identifier. The claim is treated as an amended claim.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 18 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Line 4 “insulation layer loose laid over primary waterproofing membrane” is confusing. The primary membrane is over the insulation layer, not vice versa. The claim is thus indefinite.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 18-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Kelly (6006482).

Kelly (figure 31) shows a roof system comprising a roof deck (12), a primary waterproofing membrane (9), a roof insulation layer (14, the layer above layer 110), an energy absorbing layer (14, the layer below layer 9) supported by the insulation layer, a secondary waterproofing membrane (112) loose laid over the energy absorbing layer, the energy absorbing

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layer is gypsum board, joints in the insulation layer are offset from joints in the energy absorbing layer.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-2, 6, 9-17, 22-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kelly (6006482).

Kelly (figure 31) shows a roof system comprising a roof deck (108), an insulation layer (14, below layer 14) supported by the roof deck, the insulation layer deck a frangible energy absorbing layer (14 upper layer, gypsum board inherently is frangible) supported by the insulation layer, a waterproof membrane (9) loose laid over the frangible energy absorbing layer, the energy absorbing layer being gypsum board, the joints in the insulation layer being offset from joints in the energy absorbing layer (figure 31 shows the layers having spaced joints), the deck is air sealed, the membrane(9) is air sealed to a wall structure (26), the membrane is installed with at least one intentional wrinkle (figures 15,25-26), the at least one wrinkle is located at a perimeter edge of the deck (where part 9 bent from horizontal to vertical to attach to part 26), the at least one wrinkle is located within a field of the membrane (figures 15, 25-26), the at least one wrinkle is located at protrusions (figure 15, 25-26) of the roof membrane, the at least one wrinkle is located at both a field of the membrane and perimeter edge of the roof deck, the at least one wrinkle is adhered to an underlying layer (88, 67 figures 15, 25-26) of the system with

an adherent (16, 16) composed to yield to shear force thereon, a wind blown debris resistant roof system comprising a roof deck (12, figure 31), a layer of stiff material (110) attached to the roof deck, a primary waterproofing membrane (9) supported by the stiff material, a roof insulation (14, the lower layer 14) and frangible energy absorbing layer (14, the layer below layer 9 and above the lower layer 14) loose laid over the primary water proofing membrane, a secondary waterproofing membrane (112) disposed over the frangible energy absorbing layer, a preexisting roof assembly that is air sealed underlying at least the energy absorbing layer.

Kelly does not show the insulation layer being more resilient than the roof deck.

Kelly (figure 12) discloses the use of concrete and metal decking material to form a roof support.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Kelly' structure figure 31 to show the use of concrete and metal decking material to form a roof support because concrete and metal deck would form a strong roof.

Kelly as modified shows the insulation layer being more resilient than the roof deck as the roof deck is comprised of concrete and metal.

5. Claims 1-2, 6, 9-17, 22-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kelly (6006482) in view of Pearson (5560150).

Kelly (figure 31) shows a roof system comprising a roof deck (108), an insulation layer (14, below layer 14) supported by the roof deck, the insulation layer deck a frangible energy absorbing layer (14 upper layer, gypsum board inherently is frangible) supported by the insulation layer, a waterproof membrane (9) loose laid over the frangible energy absorbing layer, the energy absorbing layer being gypsum board, the joints in the insulation layer being offset

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from joints in the energy absorbing layer (figure 31 shows the layers having spaced joints), the deck is air sealed, the membrane(9) is air sealed to a wall structure (26), the membrane is installed with at least one intentional wrinkle (figures 15,25-26), the at least one wrinkle is located at a perimeter edge of the deck (where part 9 bent from horizontal to vertical to attach to part 26), the at least one wrinkle is located within a field of the membrane (figures 15, 25-26), the at least one wrinkle is located at protrusions (figure 15, 25-26) of the roof membrane, the at least one wrinkle is located at both a field of the membrane and perimeter edge of the roof deck, the at least one wrinkle is adhered to an underlying layer (88, 67 figures 15, 25-26) of the system with an adherent (16, 16) composed to yield to shear force thereon, a wind blown debris resistant roof system comprising a roof deck (12, figure 31), a layer of stiff material (110) attached to the roof deck, a primary waterproofing membrane (9) supported by the stiff material, a roof insulation (14, the lower layer 14) and frangible energy absorbing layer (14, the layer below layer 9 and above the lower layer 14) loose laid over the primary water proofing membrane, a secondary waterproofing membrane (112) disposed over the frangible energy absorbing layer, a preexisting roof assembly that is air sealed underlying at least the energy absorbing layer.

Kelly does not show the insulation layer being more resilient than the roof deck.

Pearson discloses the use of concrete and metal decking material to form a roof.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Kelly' structure figure 31 to show the use of concrete and metal decking material to form a roof because concrete and metal deck would form a strong roof as taught by Pearson.

Kelly as modified shows the insulation layer being more resilient than the roof deck as the roof deck is comprised of concrete and metal.

6. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kelly (6006482).

Kelly as modified shows all the claimed limitations except for the gypsum board being ½ inch thick.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Kelly's modified board to show the board being ½ inch thick because it would provide for good supporting strength and insulation for the roof.

7. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kelly (6006482) in view of Pearson (5560150).

Kelly as modified shows all the claimed limitations except for the gypsum board being ½ inch thick.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Kelly's modified board to show the board being ½ inch thick because it would provide for good supporting strength and insulation for the roof.

8. Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kelly (6006482) in view of Nurley et al (6250036)

Kelly as modified shows all the claimed limitations except for the membrane being fiberglass reinforced, the membrane being about 80 mil fiberglass reinforced or thicker.

Nurley et al (col 6 lines 28-45) discloses felt heavily reinforced with fiberglass would provide the properties of silencing sound, cushioning effect and deform slightly when forces are applied generally perpendicular to upper and lower surface of the material.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Kelly's modified board to show the membrane being fiberglass reinforced, the membrane being about 80 mil fiberglass reinforced or thicker because having the felt being fiber glass reinforced would provide the properties of silencing sound, cushioning effect and deform slightly when forces are applied generally perpendicular to the surface of the material as taught by Nurley et al, and these properties are desired for a roofing membrane, and having the membrane being 80 mil fiberglass reinforced or thicker would have been obvious to one having ordinary skill in the art as it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art, In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

9. Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kelly (6006482) in view of Pearson as applied to claim 1 above, and further in view of Nurley et al (6250036).

Kelly as modified shows all the claimed limitations except for the membrane being fiberglass reinforced, the membrane being about 80 mil fiberglass reinforced or thicker.

Nurley et al (col 6 lines 28-45) discloses felt heavily reinforced with fiberglass would provide the properties of silencing sound, cushioning effect and deform slightly when forces are applied generally perpendicular to upper and lower surface of the material.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Kelly's modified board to show the membrane being fiberglass reinforced, the membrane being about 80 mil fiberglass reinforced or thicker because having the felt being fiber glass reinforced would provide the properties of silencing sound, cushioning effect and

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deform slightly when forces are applied generally perpendicular to the surface of the material as taught by Nurley et al, and these properties are desired for a roofing membrane, and having the membrane being 80 mil fiberglass reinforced or thicker would have been obvious to one having ordinary skill in the art as it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art, In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

10. Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kelly (6006482) in view of Bennett.

Kelly as modified shows all the claimed limitations except for the insulation layer is of a resilient material

Bennett shows the insulation layer is of a resilient material (polystyrene polymer foam, inherently resilient).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Kelly's modified structure to show the insulation layer is of a resilient material as taught by Bennett because resilient foam would provide good insulation for the roof structure as taught Bennett.

Per claim 8, Kelly as modified shows all the claimed limitations except for the resilient material being about 1.5 inch thick or more.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Kelly's board to show the resilient material being about 1.5 inch thick or more because it would provide for good insulation for the roof.

11. Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kelly (6006482) in view of Pearson as applied to claim 1 above, and further in view of Bennett.

Kelly as modified shows all the claimed limitations except for the insulation layer is of a resilient material

Bennett shows the insulation layer is of a resilient material (polystyrene polymer foam, inherently resilient).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Kelly's modified structure to show the insulation layer is of a resilient material as taught by Bennett because resilient foam would provide good insulation for the roof structure as taught Bennett.

Per claim 8, Kelly as modified shows all the claimed limitations except for the resilient material being about 1.5 inch thick or more.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Kelly's modified insulation layer to show the resilient material being about 1.5 inch thick or more because it would provide for good insulation for the roof.

12. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kelly (6006482) in view of Bennett.

Kelly shows all the claimed limitations except for the insulation layer is of a resilient material

Bennett shows the insulation layer is of a resilient material (polystyrene polymer foam, inherently resilient).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Kelly's structure to show the insulation layer is of a resilient material as taught by Bennett because resilient foam would provide good insulation for the roof structure as taught Bennett.

13. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kelly (6006482) in view of Pearson as applied to claim 1 above, and further in view of Bennett.

Kelly (figure 31) shows a roof system comprising a roof deck (12), a roof insulation layer (14, lower layer) disposed upon the roof deck, at least 0.5 inch of gypsum board (14 upper layer) disposed upon the insulation layer, a loose laid, non-reinforced waterproofing membrane (9) with fabricated wrinkles disposed upon the gypsum board.

Kelly does not show the insulation layer being resilient.

Bennett shows an insulation layer is of a resilient material (polystyrene polymer foam, inherently resilient).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Kelly's structure to show the insulation layer is of a resilient material and made of expanded polystyrene as taught by Bennett because resilient foam would provide good insulation for the roof structure as taught Bennett .

Response to Arguments

14. Applicant's arguments with respect to claims 1-30 have been considered but are moot in view of the new ground(s) of rejection.

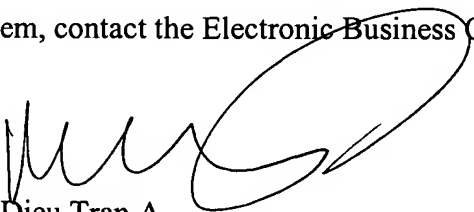
Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art shows different roofing system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phi D A whose telephone number is 571-272-6864. The examiner can normally be reached on Monday-Tuesday, Thursday and Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lanna Mai can be reached on 571-272-6867. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Phi Dieu Tran A

3/6/06